CLASSIFIED FOR INTEGRITY RATINGS OF UP TO ‘E60 / E90 / E120 / E240’

FLAME ARMOUR FIRE-RESISTANT ROLLER SHUTTERS

SSS INDUSTRIAL DOORS

RIGID STRUCTURE

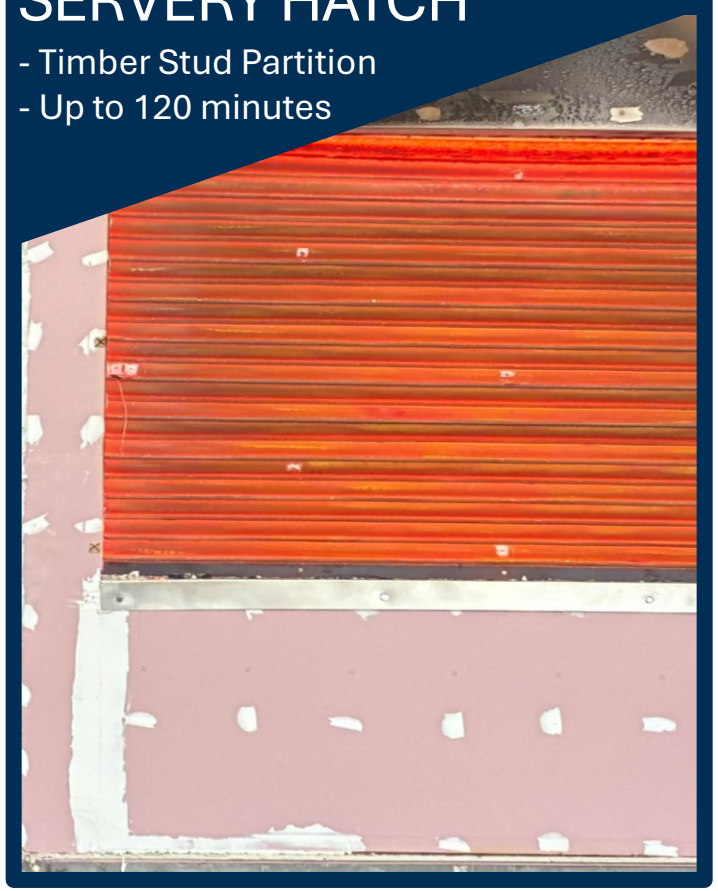
- Masonry / Concrete
- Up to 240 minutes

FLEXIBLE STRUCTURE

- Timber Stud Partition
- Up to 90 minutes

SERVERY HATCH

- Timber Stud Partition
- Up to 120 minutes



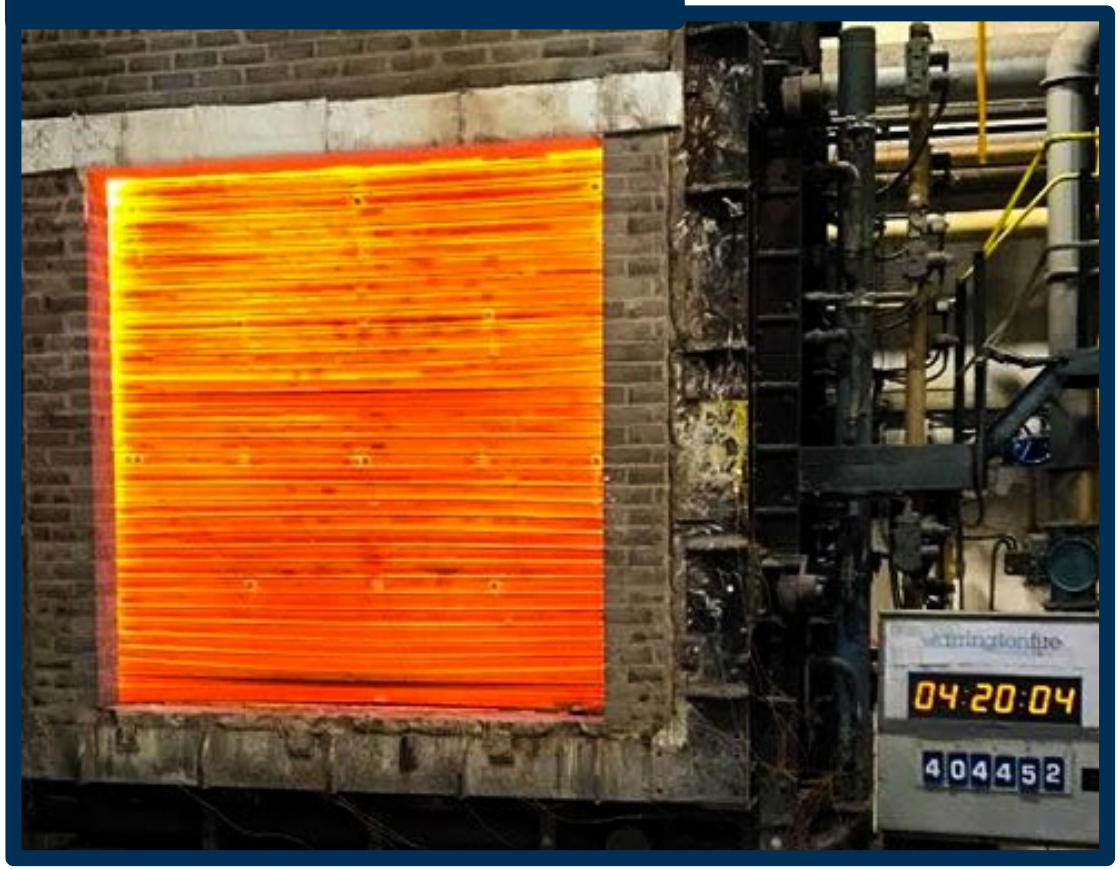
- ✓ **CE** Marked to BS EN 16034: 2014
- ✓ **UKCA** Marked to BS EN 16034: 2014
- ✓ ‘Rigid’ supporting constructions
- ✓ ‘Flexible’ supporting constructions
- ✓ ‘Servery Hatch’ applications
- ✓ ‘Gravity fail-safe’ motor tested
- ✓ Tested to EN 1634-1: 2014 + A1: 2018
- ✓ Classification Report to EN 13501-2: 2023
- ✓ Nationwide delivery & installation

MASONRY / CONCRETE
RIGID SUPPORTING CONSTRUCTION

FLAME ARMOUR
FIRE-RESISTANT ROLLER SHUTTERS

INDUSTRIAL DOORS

✓ RIGID STRUCTURE



PERMITTED APERATURE DIMENSIONS:

E60 Integrity Rating **–** 10000 mm width x 7000 mm height
E120 Integrity Rating – 10000 mm width x 6300 mm height
E240 Integrity Rating – 8000 mm width x 3600 mm height

To obtain certification for the product, a representative from a Certification Body must undertake an initial inspection and observation of the manufacturing facility. A representative of **Warringtonfire Testing & Certification Ltd** (previously known as Exova UK) conducted this sampling audit on 25th October 2017.

On **8th February 2019**, our Flame Armour fire-resistant roller shutter was tested to the European test standard **BS EN 1634-1: 2014 + A1: 2018** at Warringtonfire Testing & Certification Ltd.

The original test specimen was installed onto the fire exposed face of a brick wall, this type of supporting construction is defined as a '**rigid**' supporting construction within the general test requirements standard BS EN 1363-1.

The test specimen achieved **240 minutes** Integrity performance. The performance of the product is detailed within **Warringtonfire Test Report No. 404452**.

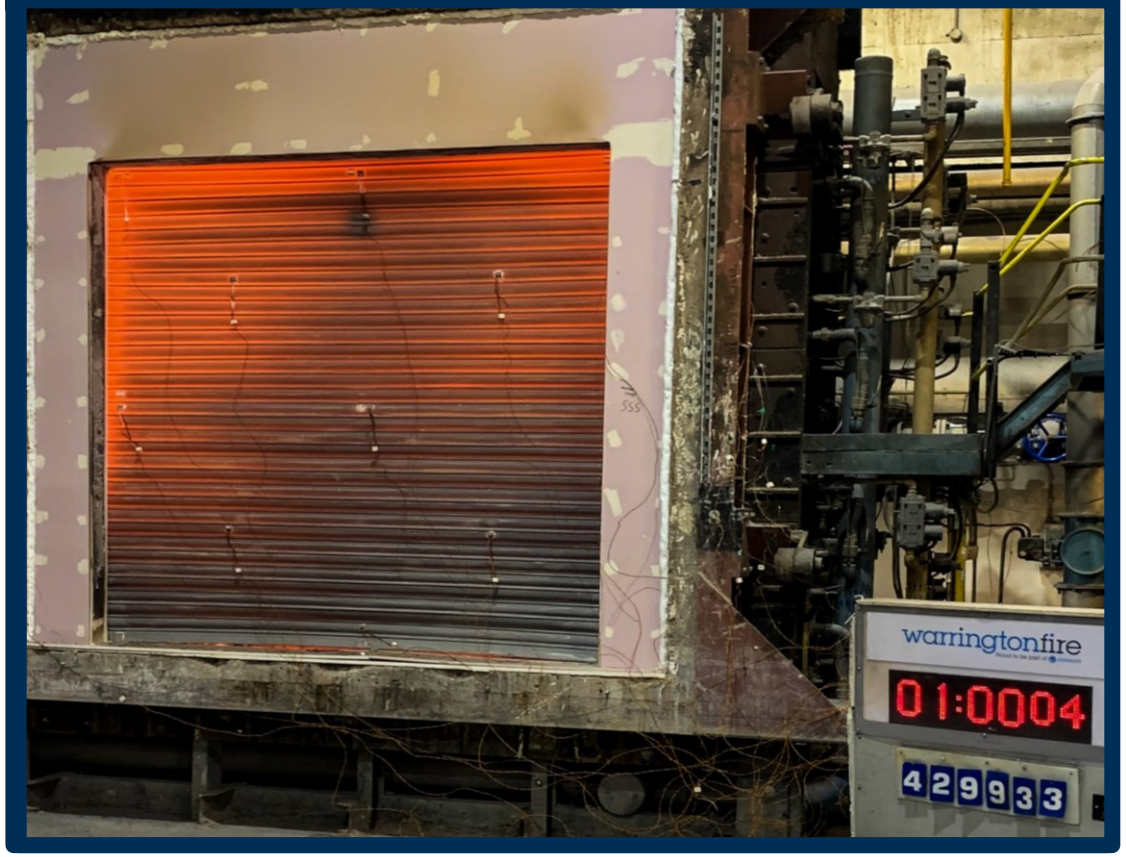
Using this test evidence, the testing laboratory were able to undertake and produce an **Extended Application Report** (**BS EN 15269-10: 2011**) which details all the possible variations in design based upon the test evidence provided, this document details the product specifications for larger applications.

TIMBER STUD PARTITION
FLEXIBLE SUPPORTING CONSTRUCTION

FLAME ARMOUR
FIRE-RESISTANT ROLLER SHUTTERS

INDUSTRIAL DOORS

✓ FLEXIBLE STRUCTURE



PERMITTED APERATURE DIMENSIONS:

E60 Integrity Rating – 7000 mm width x 7000 mm height
E90 Integrity Rating – 7000 mm width x 7000 mm height

The **Extended Application standard BS EN 15269-10: 2011** states that if a manufacturer undertakes a test to a 'rigid' supporting construction (i.e. masonry wall), then an additional separate furnace testing is required for fixing to any alternative supporting constructions, such as timber stud partitions.

On 7th July 2020, the Flame Armour fire-resistant roller shutter was further tested to the European test standard **BS EN 1634-1: 2014 + A1: 2018** at Warringtonfire Testing & Certification Ltd.

The test specimen was an almost identical specification to the original supporting test specimen, however this was installed onto the fire exposed face of a timber stud partition. This type of wall construction is defined as a '**flexible**' supporting construction within the general test requirement standard BS EN 1363-1.

The test specimen achieved **90 minutes** Integrity performance. The performance of the product is detailed within **Warringtonfire Test Report No. 429933.**

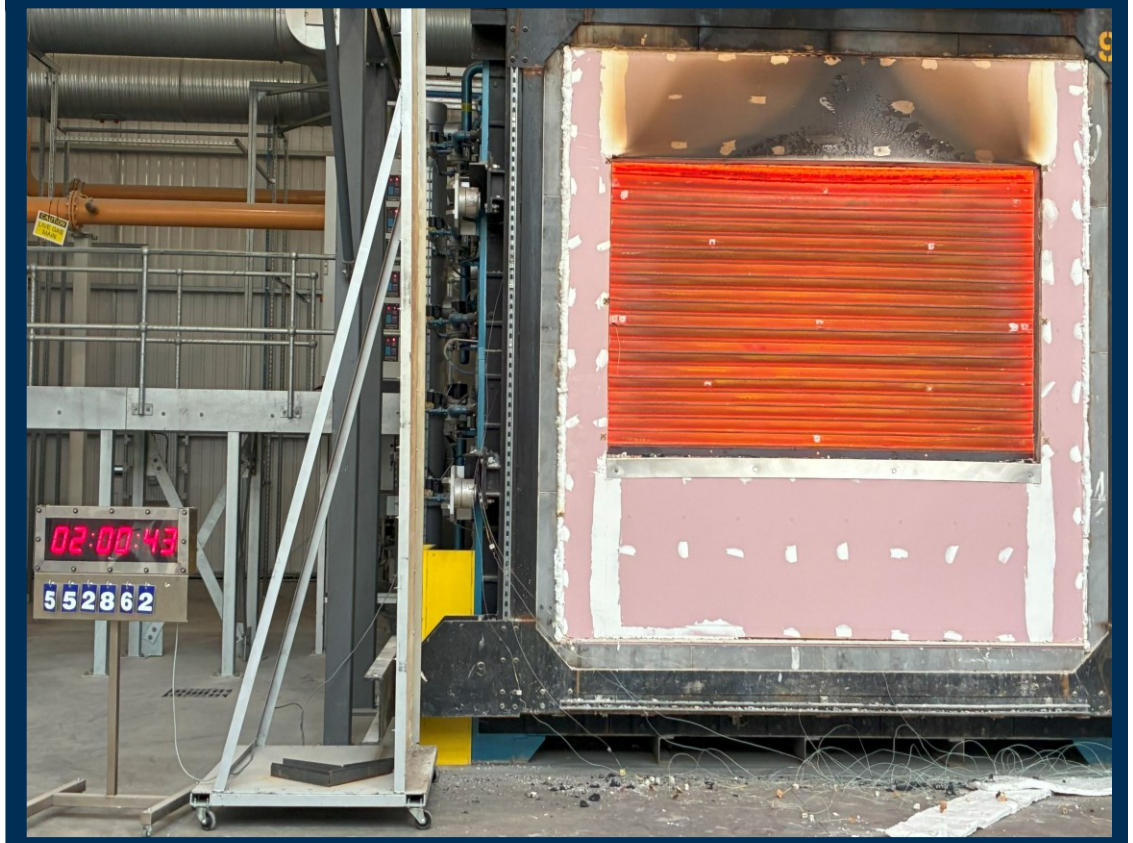
As a result of obtaining additional test evidence, it was possible to incorporate this additional scope within our current 'Flame Armour' product range. The **Extended Application Report** which details all the possible variations was updated to include the scope for installations to timber stud partitions.

TIMBER STUD PARTITION (INC. 900 MM WALL)
ASSOCIATED SUPPORTING CONSTRUCTION

FLAME ARMOUR
FIRE-RESISTANT ROLLER SHUTTERS

INDUSTRIAL DOORS

✓ SERVERY HATCH



PERMITTED APERATURE DIMENSIONS:

EW20 Integrity & Radiation Rating – 2500 mm width x 1550 mm height*
E60 Integrity Rating **–** 2500 mm width x 1550 mm height
E120 Integrity Rating – 2500 mm width x 1550 mm height

*Restricted to the tested direction of exposure

In light of the latest industry guidance, fire-resistant roller shutters installed into a servery hatch configuration are not permitted within the scope of the **Extended Application standard BS EN 15269-10: 2011**.

As a manufacturer of fire-resistant roller shutter assemblies, we recognised the importance of obtaining direct test evidence for this specific type of application (i.e. servery hatch /countertop fire shutters). As this ensures that the product delivers the necessary integrity performance, particularly when installed above finished floor level (FFL) and subjected to increased furnace pressures.

Listening to our trade customers feedback, we decided to improve upon our current design and purposely manufactured a fire-resistant roller shutter for a servery hatch application. To clearly distinguish this improved design from our existing product range, we intend to market this new and enhanced design under the '**Flame Armour+**' product reference.

On 25th June 2025, the Flame Armour fire-resistant roller shutter was further tested to the European test standard **BS EN 1634-1: 2014 + A1: 2018** at Warringtonfire Testing & Certification Ltd.

The test specimen achieved **120 minutes** Integrity performance. The performance of the product is detailed within **Warringtonfire Test Report No. 552892.**

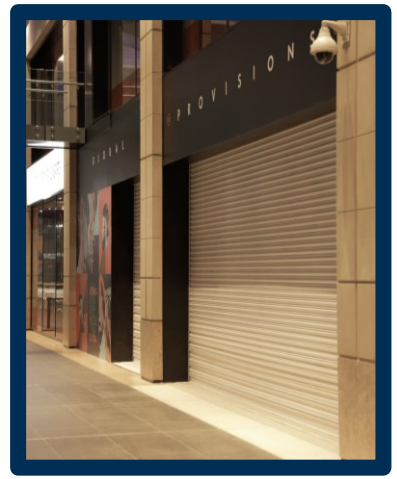
TUBULAR MOTOR TYPE
FIRE-RESISTANT ROLLER SHUTTERS

FLAME ARMOUR
FIRE-RESISTANT ROLLER SHUTTERS

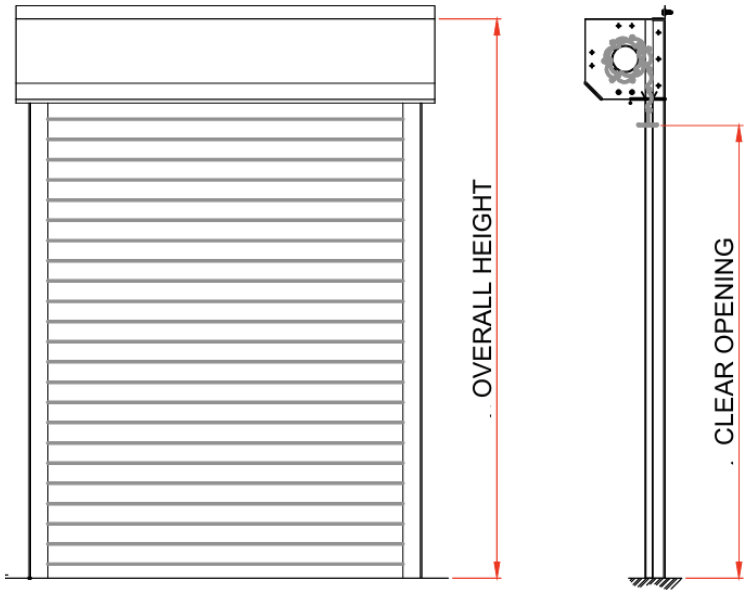
INDUSTRIAL DOORS

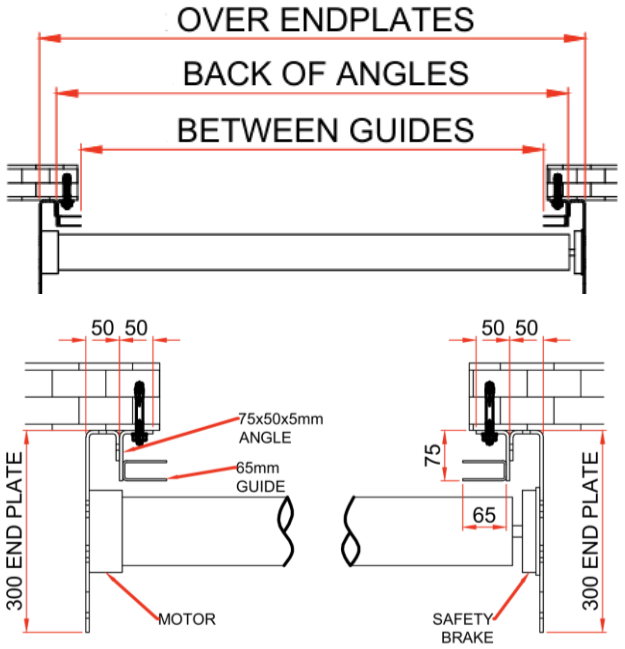
TUBULAR MOTOR FIRE SHUTTER SPECIFICATIONS:

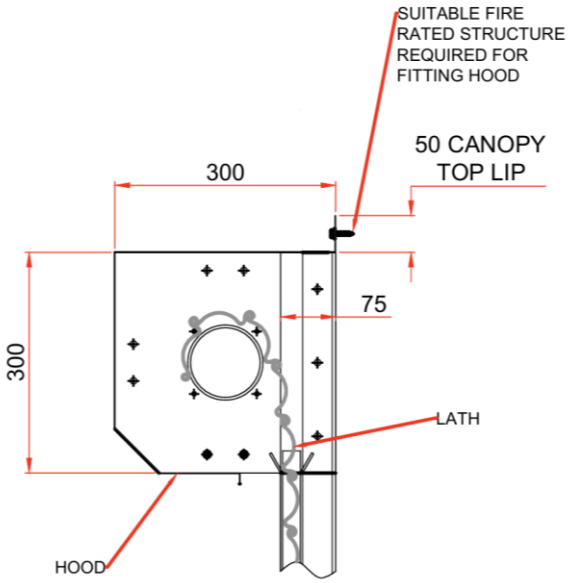
A fire-resistant roller shutter assembly can be manufactured with a single-phase motor housed internally within the barrel, this type of roller shutter is referred to as a 'tubular motor fire-resistant roller shutter'. This type of motor application is of a smaller design, ideal for applications which have limited space and size. It operates through a powered-down device that requires a battery backup unit with mains supply to function. A tubular motor fire-resistant roller shutter is supplied with an audio-visual control panel as standard, in order to operate it requires a volt-free signal from the fire alarm (BMS system) to close on activation.



Tubular motor fire-resistant roller shutters are restricted by the motor torque, therefore in some cases for larger applications it is not possible to supply a fire shutter with this type of motor and an inline (chain-driven) industrial motor would be required for that application.







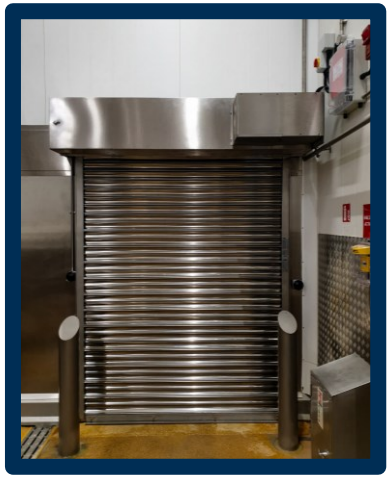
EXTERNAL (INLINE) MOTOR TYPE
FIRE-RESISTANT ROLLER SHUTTERS

FLAME ARMOUR
FIRE-RESISTANT ROLLER SHUTTERS

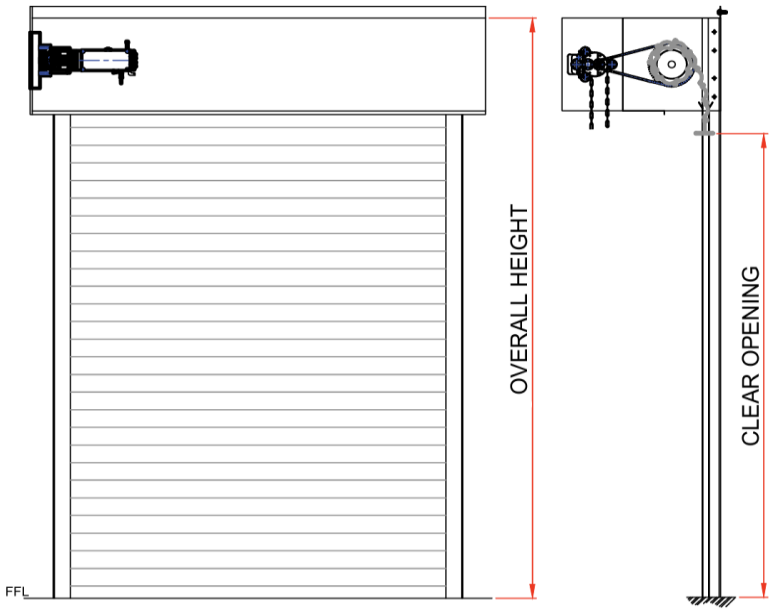
INDUSTRIAL DOORS

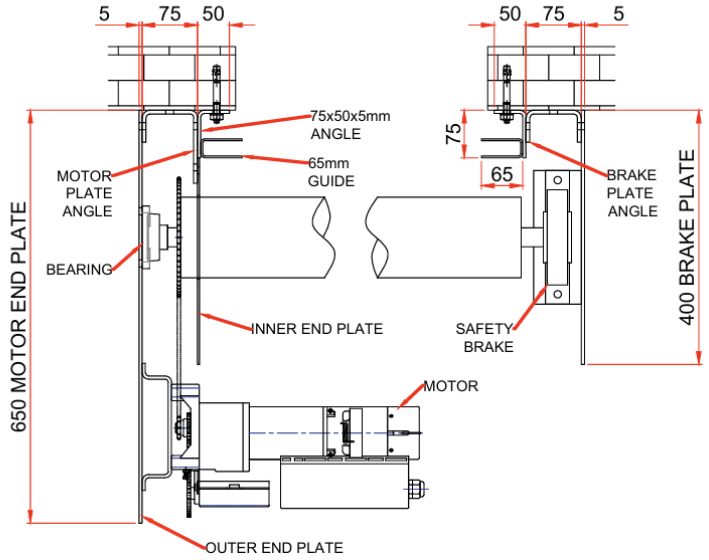
INLINE (EXTERNAL MOTOR) FIRE SHUTTER SPECIFICATIONS:

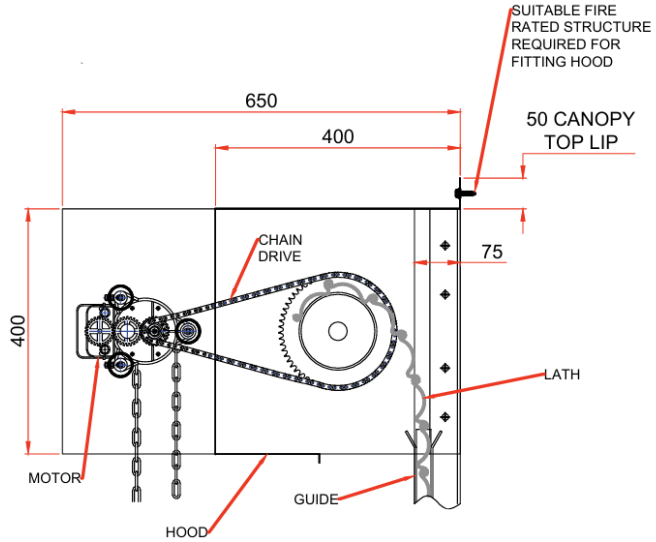
A conventional, industrial type, fire-resistant roller shutter is operated by an external (chain-driven) motor. This is referred as an inline fire shutter due to the motor being inline with the plate wheel on the shaft which is connected to the barrel. Manufactured with either a single-phase or three-phase motor which is fitted externally to the coil casing and driven by a chain. These types of fire shutters are often used for larger applications.



This type of fire shutter can be manufactured with a fusible link mechanism and auto-solenoid release. It is possible to supply a battery backup unit for the single-phase motors. Power is not required for these types of shutters to activate in the event of a fire, this is due to the shutter being in the open position and allow a control descent when the thermal, fusible link is triggered.







GRAVITY FAIL-SAFE TUBULAR MOTOR
FIRE-RESISTANT ROLLER SHUTTERS

FLAME ARMOUR
FIRE-RESISTANT ROLLER SHUTTERS

(Gravity fail-safe test conducted in house)

GRAVITY FAIL-SAFE TUBULAR MOTOR FIRE SHUTTER SPECIFICATIONS:

Unlike typical tubular motor fire shutters, a gravity fail-safe tubular motor is manufactured with an internal 24DC volt brake that is electrically powered in the 'close' position. The key feature of this type of fire shutter is how it operates in the event of a power failure, should the power supply to the building be compromised then this type of fire shutter will begin a gravity-controlled descent, compartmentalize a building and prevent the spread of fire.

The control panel which is supplied with the 'Flame Armour' gravity fail-safe fire shutter is not a standard fire panel as it continuously monitors the closed alarm input terminals. If the terminals are 'open', either by the triggering of the fire alarm or via a forced test then the fire shutter will close.

Due the complexity of the fail-safe design within the tubular motor, the cost of this motor type is sustainably more than a 'standard' tubular motor. Therefore, it is imperative that if you require a gravity fail-safe fire shutter that it is highlighted upon initial enquiry.

- ✓ Tested by Warringtonfire (WF Test Report No. 429933)
- ✓ Lifting capacity of up to 80 kg
- ✓ Built-in audio-visual warning
- ✓ Operates a controlled descent without the requirement of electrical power
- ✓ Built-in battery backup unit (for up 96 hours)
- ✓ Delay before descent settings
- ✓ Digital limits

SPECIFICATION

FLAME ARMOUR
FIRE-RESISTANT ROLLER SHUTTERS

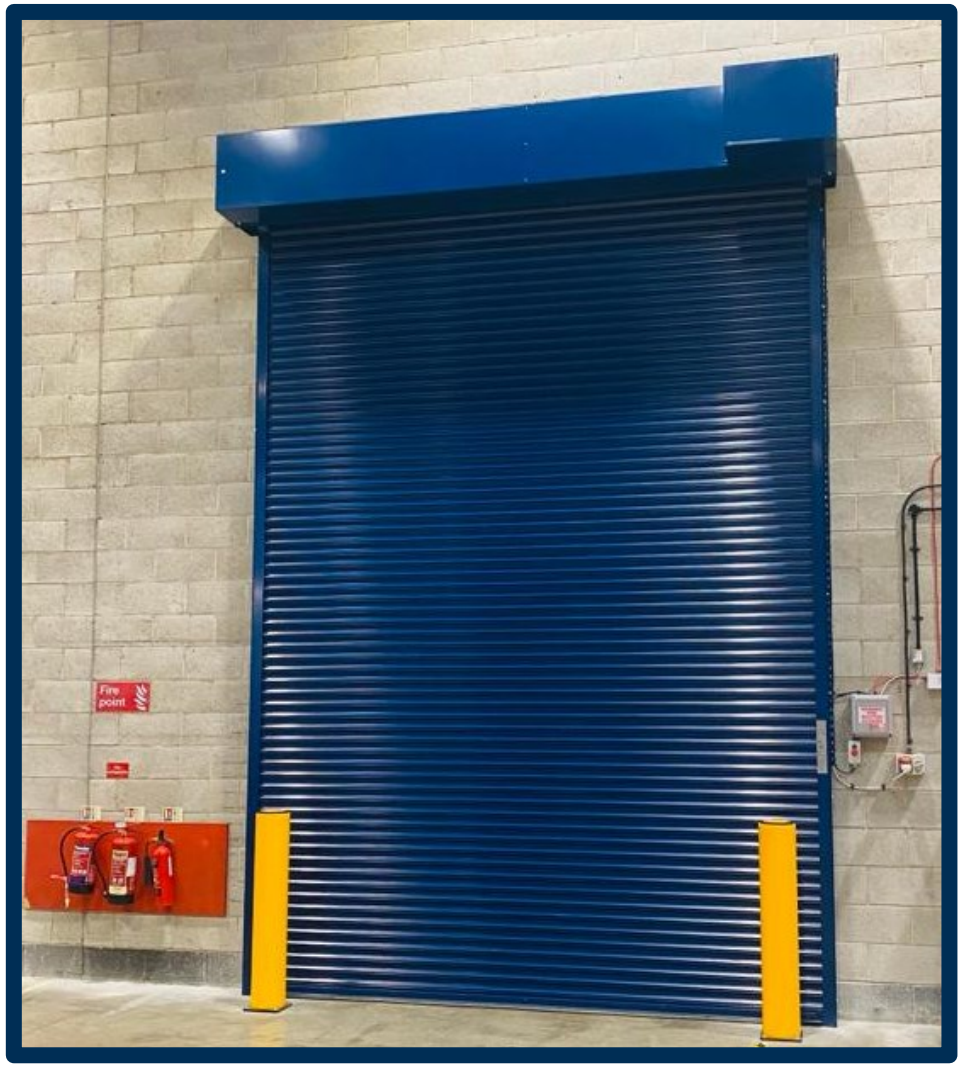
SSS INDUSTRIAL DOORS

SPECIFICATION:
To determine the specifications of the fire-resistant roller shutter upon receiving an enquiry, there are four factors which need to be determined in order provide a quotation:

1. **Clear opening dimensions required** (Width x Height)
2. **Fire rating required** (E60, E90, E120 or E240)
3. **Substrate type** (masonry, timber stud, servery hatch application, etc.)
4. **Electrical type onsite** (single-phase or three-phase)

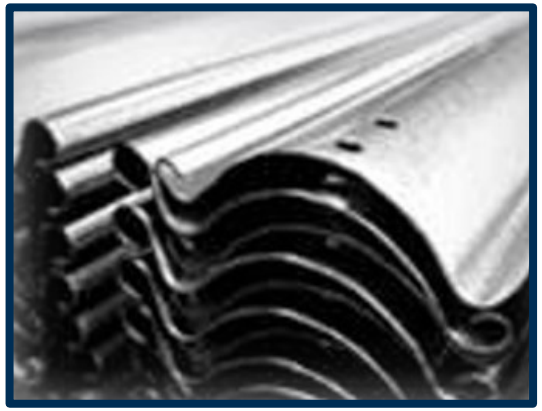
Once the above information has been obtained, it is possible to use the Extended Application Report for the tested variations to identify the components required to achieve the desired performance. This is clearly outlined within the report produced by Warringtonfire Testing & Certification Ltd. The manufacturer cannot deviate from the specifications stated within the Extended Application Report.

A standard tubular motor fire shutter can be manufactured to a minimum clear opening size of 600 mm. However, a gravity fail-safe fire shutter can be manufactured to a minimum clear opening of 300 mm.



SPECIFICATION

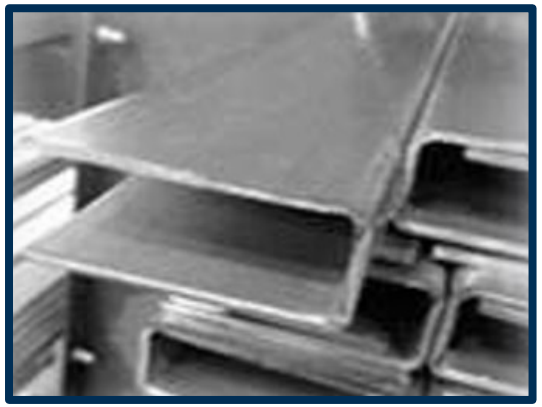
FLAME ARMOUR
FIRE-RESISTANT ROLLER SHUTTERS



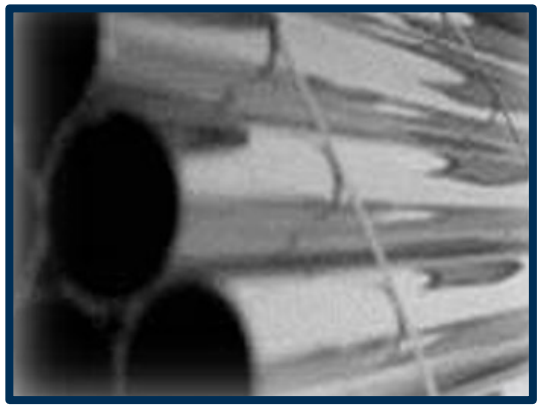
CURTAIN (LATH):
Constructed from 75 mm wide curved interlocking galvanised steel 0.7 mm or 0.9 mm solid, complete with cast end locks.

END PLATES:
Depending on the dimensions of the structural height and the specification stated within the Extended Application Report, this component sizes will vary (250 mm to 500 mm).

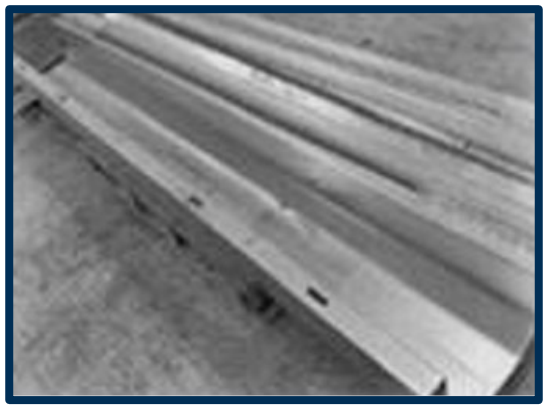
FIXING ANGLES:
Constructed from 75 mm x 50 mm x 5 mm steel angle complete with punched slots to allow for thermal expansion during fire conditions.



GUIDE CHANNEL:
Depending on the dimensions of the structural width dictates the guide type required. 65 mm x 32 mm guide channel was tested.



BARREL:
The Extended Application Report provides clear guidance on the barrel type required, depending on the dimensions of the aperture and fire rating required.



CANOPY
The canopy length is determined by the width of shutter. This canopy requires a fixing in the top (punched) lip which is included for thermal expansion.

ANCILLARIES – PART 1

FLAME ARMOUR
FIRE-RESISTANT ROLLER SHUTTERS

Depending on the type of fire-resistant roller shutter required, the following components are either a requirement or an additional extra.

UPS-FDI CONTROL PANEL

Fire interface control panel complete with built-in plug and play capability to utilize the UPS Sleep-mode battery backup unit. This panel does not have an audio-visual warning.

UPS SLEEP-MODE BATTERY BACKUP

The sleep-mode UPS uses a RJ cable into the control panel which enables the fire shutter to operate for several days after permanent power has been lost.

FCP LITE AUDIO-VISUAL PANEL

The FCP-Lite is a basic audio-visual control panel which includes a 90dB sounder and is operated by either membrane buttons on the face of the control panel or by external controls. Impulse functionality for use with safety devices or hold-to-run operation. low voltage control circuit with delay timer of up to 196 seconds.

This control panel is not compatible with a sleep mode battery backup unit or a repeater panel.

FDCP01 CONTROL PANEL

FDCP01 REPEATER PANEL

The FDCP01 fire control panel designed to operate fire-resistant roller shutter doors fitted with a 230-volt tubular motor. While maintaining the function of every day normal use, the FDCP01 provides an advanced warning in the event of a fire with a flashing visual warning and 98 dB sounder.

<u>Key Features:</u>

- Selectable fire signal, Normally open or Normally closed volt free contact
- Low voltage external controls
- Programmable auxiliary relay
- LED fault diagnostics
- Delay timer options (0-5 mins)
- Cyclic pulse and pause operation
- Compatible with ‘repeater panel’ for adjacent wall
- Auto close function
- Option for sleep-mode battery backup

The FDCP01 repeater panel cannot operate without the main FDCP01 control panel. The repeater panel is an extra audio-visual warning and is typically installed on the adjacent wall to ensure that personnel stood at either side of the fire door and warned that the fire shutter will be closing.

ANCILLARIES – PART 2

FLAME ARMOUR
FIRE-RESISTANT ROLLER SHUTTERS

Depending on the type of fire-resistant roller shutter required, the following components are either a requirement or an additional extra.

FCP03 AUDIO-VISUAL PANEL

The FCP03 audio-visual control panel is designed to operate with both 230volt or 24volt DC tubular motors, or single-phase/three phased external industrial fire motors. This panel has the capability to connect a solenoid release unit, or 3rd party control system.

Key Features:
- Large visual warnings and 103 dB sounders
- Easy to program using front panel buttons and display
- LED fault indicator & diagnostics
- Selectable fire signal, Normally open or Normally closed volt free contact
- Removable terminals for ease of connection
- Low voltage external controls
- Door closing methods of solenoid drop, drive down or two-stage closing
- Programmable auxiliary relays
- Programmable audio / visual delay timer prior to closing
- Matching repeater panel
- Internal (1.3Ahr) batteries to maintain panel in event of mains failure
- (Upgrade) ECU Option for a automatic re-open time after alarm reset

FPC03 REPEATER PANEL

(CSL) SLEEP MODE UPS & FIRE ALARM INTERFACE CARD

Compatible with the FCP03, the uninterruptable power supply (UPS) feeds a constant reliable and filtered power. The sleep-mode function allows for a prolonged standby mode, due to draining a small amount of charge overtime. Therefore, the fire shutter can operate on stored energy for up to 30 days.

The fire alarm interface card (Required with CSL Sleep mode UPS) connects into the UPS and monitors the fire alarm signal directly. If a fault occurs on the fire alarm, then the card activates the UPS and can operate the fire shutter to open/close.

(STANDARD) BATTERY BACKUP

As a minimum requirement, any tubular motor fire shutter must be supplied with some form of battery backup (UPS) system. In the event of a fire, or if the mains supply is terminated, then the fire shutter must be able to operate a closed cycle without human intervention. This is only achievable with stored energy from a UPS.

A standard battery backup (UPS) device is only compatible with single-phase 240-volt motors and can provide approximately 4 hours of continual power to the fire-resistant roller shutter in the event of a power failure.

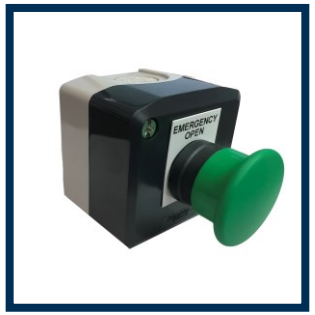
ANCILLARIES – PART 3

FLAME ARMOUR FIRE-RESISTANT ROLLER SHUTTERS

Depending on the type of fire-resistant roller shutter required, the following components are either a requirement or an additional extra.

RED EMERGENCY & GREEN 'DOOR RELEASE' BUTTONS

The emergency 'Fire break glass' button and emergency 'Break glass switch', also known as break glass unit or exit button, can be connected to a FCP03 audio-visual panel. These types of buttons are suitable for exit doors and emergency doors.



GREEN 'EMERGENCY OPEN' BUTTON

The 'Emergency open' push button can be connected to the FCP03 audio-visual control panel and upon the button being pressed the fire shutter can be programmed to 'open'. Once pressed and the door opens for several minutes, then the FCP03 panel will begin a close cycle once more.

RED 'MUSHROOM' BUTTON

The emergency 'red mushroom' button, which can be operated by palm or foot, can be connected to the FCP03 audio-visual control panel and upon the button being pressed the fire shutter can be programmed to open or close. Typically, utilized as emergency open buttons.

FIXED TEMPERATURE THERMAL DETECTOR (HEAT DETECTOR)

The United Kingdom Building Regulations state that if a fire-resistant roller shutter is installed on a 'means of escape' then it must be triggered by a localized heat detector (or fusible link). This sensor can be wired directly into the FPC03 audio-visual control panel so that upon thermally activating at 58°C, a 'close' signal will be sent to the control panel, and the fire shutter activate a close cycle. This is ideal for ensuring all persons have evacuated the building prior to the closure of the fire-resistant roller shutter.

LOCKABLE, 'TEST' & 'RESET' PUSH BUTTON STATION

This device allows the trained user to isolate the control functionality locally; it also allows the user to undertake a controlled simulation of fire conditions. This push button station includes a 'reset' function which allows the user to test and then reset the control panel and fire-resistant roller shutter. This is ideal for fire shutters installed in schools, as the access to the fire shutters controls can be locked to stop unwanted operations.

POWDER COATING

We offer in-house powder coating to all British standards (BS) and RAL colours. For tailor-made powders, i.e. special colours, it will incur an additional cost. Using advanced anti-corrosive technology, we apply powder coating over hot-dip galvanised steel.

The requirement for providing an audio-visual warning is referenced within BS EN 12604, section 4.9 and The Supply of Machinery (Safety) Regulations 2008, Annex 1: Clause 1.2.2 states the installer is liable and must justify the risk assessment if omitting to install an audio-visual warning.

FLAME ARMOUR
FIRE-RESISTANT ROLLER SHUTTERS

FAQs – PART 1

Q1. IS AN AUDIO-VISUAL CONTROL PANEL REQUIRED?

An Audio-visual warning device shall be fitted to the door which acts immediately when the door begins to close automatically, as stated in EN 12604: 2017 + A1: 2020 (Section 4.9). An audio-visual control panel is legally required for door operating by 'gravity' or other 'self-closing mechanisms' as they shall not expose any person to being crushed or entangled to forces causing injury or damage. The operating speed of the door should not exceed 0.3m/s or the fire shutter impacting the human body or part of it should not exceed 200N. Liability is solely on maintenance contractor or installation company. The manufacturer always recommended an audio-visual warning device and the utilisation of the timer delay functionality – however, this is a matter of local risk assessment.

Q2. BUILDING CONTROL AUTHORITIES HAVE ASKED FOR A CLASSIFICATION REPORT

The current UK Governments statutory guidance stated within 'Approved Document B' Volume 1, the 2029 amendments, regarding the fire safety provisions incorporates the removal of the national classification system for fire resistance (i.e. the previously acceptance of fire resistance doorsets tested to BS 476: Part 22: 1987 and declared as a 'FD30' doorsets for 30 minutes fire performance is no longer permitted). In anticipation of the shift to the European classification system, products such as doorsets are classified in accordance with EN 13501-2, are to be classified as 'E60' for 60 minutes, 'E120' for 120 minutes integrity performance (etc). As the manufacturer of the Flame Armour product range, we believe in a pro-active, transparent approach, as such the Classification Report No. 416674 is publicly available on our website. Please visit www.sssindustrialdoors.co.uk/product/flame-armour-fire-shutters for more information

Q3. WHAT ARE THE MAINTENANCE REQUIREMENTS FOR A FIRE-RESISTANT ROLLER SHUTTER?

Under the Fire Safety Order 2005, the responsible person, i.e. the building owner, manager or user, is directly responsible for ensuring that routine inspections and fire simulation tests are to be undertaken by trained operatives. The manufacturer recommends that these tests and inspections are conducted on a weekly basis, by the end-user, to ensure that the fire-resistant roller shutter operates as intended. If the doorset is not correctly maintained, the building owner, manager or end-user is potentially putting themselves and occupants at risk and are most likely liable of prosecution. If the fire-resistant roller shutter is damaged, or requires repairing, please contact the installer immediately.

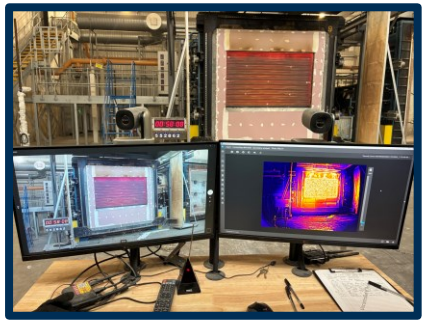
FLAME ARMOUR
FIRE-RESISTANT ROLLER SHUTTERS

FAQs – PART 2

Q4. WHY HAVE YOU TESTED A SERVERY HATCH FIRE SHUTTER?

To manufacturer a compliant fire-resistant roller shutter to apertures greater than the tested specification, which are restricted by the laboratory furnace dimensions of approximately $3m^2$, a manufacturer must obtain an **Extended Application Report (ExAp)** from the testing laboratory. This document covers larger applications and any variations from the tested specification(s).

An Extended Application Report, commonly known as ExAp, is written in accordance with the standard **BS EN 15269-10: 2011**. This standard has not been updated or revised since its initial issue and is expected to be reviewed at the end of 2025. The Extended Application Report details the applicable variations of scope from the tested specifications. For example, for a manufacturer to supply a fire-resistant roller shutter which can be installed into a 'timber stud partition' (defined as a 'Flexible structure' in accordance with EN 1363-1) then direct test evidence must have been obtained for their product installed in that type of substrate. Otherwise, if the product was installed into any other type of supporting construction, it would be outside the scope of the manufacturers Extended Application Report and would be deemed as non-compliant.



It should be noted that all fire-resistant roller shutters are tested at full-height and the bottom rail must be situated at finished floor level (FFL). There is no rule within the Extended Application Report (ExAp) which permits a variation from this tested specification. Therefore, fire-resistant roller shutters are **not permitted** to be installed into 'servery hatch / countertop applications' without direct test evidence for this type of application being obtained.

In light of this recent guidance, SSS Industrial Doors Ltd opted to obtain direct test evidence of a fire-resistant roller shutter being installed into a 'servery hatch application'. The test was conducted on the 25th June 2025 and was successful, the specimen achieved 120 minutes integrity performance when installed into a timber stud partition which included a 900 mm wall. Based upon this direct test evidence, SSS Industrial Doors Ltd can manufacturer and supply a fully-tested 'servery hatch' fire-resistant roller shutter.

CONTACT INFROMATION

FLAME ARMOUR
FIRE-RESISTANT ROLLER SHUTTERS

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